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NEW
EXPERIMENTS
WITH
MERCURY
IN THE
SMALL POX;

BY WHICH IS DEMONSTRATED
Its Specific Virtue in that Disease.

BY P. VAN WOENSEL, M. D.
LATE PHYSICIAN TO THE GENERAL HOSPITAL FOR THE INFANTRY, AND
TO THE CORPS IMPÉRIAL DES CADETS NOBLES, AT ST. PETERSBOURG.

TRANSLATED FROM THE FRENCH
BY WILLIAM FOWLE, M. D.
FELLOW OF THE EDINBURGH ROYAL PHYSICAL SOCIETY.

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TO
WILLIAM FOWLE, Esq.

ONE OF THE WARDENS TO THE WORSHIPFUL COM-
PANY OF APOTHECARIES.

PERMIT me, Sir, thus publicly to pay this small *tribute* of *gratitude* for the many favours I have received at your hands. There is one *motive* which will induce you to look on this little work with *approbation*; it is at least *meant* to be *useful* to *man-kind*.

I am,

Dear Sir,

Your most obliged Nephew,

and humble Servant,

DEVIZES.

W. FOWLE.

TRANSLATOR'S
P R E F A C E.

THE Experiments related in this work, which appear to me very satisfactory, and were made by a man of the highest respectability on the Continent, are the chief inducements to me to venture this translation. There are other parts of the work, certainly, not unexceptionable, but which I shall not mention here, as I mean to take the liberty of criticising them in my History of the Small Pox, with Remarks on the various Theories of the Disease, and the different Modes of Practice used by Authors who have written on this

Subject,

Subject, which I hope soon to make ready for the Press. I cannot, however, omit remarking, that the Calomel given by our author, seems rather to have approached nearer to the Corrosive Sublimate; as, in the third Experiment, he speaks of a strong solution of this Calomel, which, if properly prepared, would have been nearly insoluble.

THE Royal Society of Medicine in Paris declare, " that
" the Experiments are made with sagacity, and related
" with clearness and precision, and tend to prove, that mer-
" curius dulcis diminishes and destroys the force of the va-
" riolous virus. M. Van Woensel has opened a new road,
" by the most valuable observations, which is able to con-
" duct us to a more efficacious treatment than that which
" has hitherto been employed. We are therefore of opi-
" nion, that he merits the approbation of this Society."

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TO THE
READER.

I KNOW of no one who has made any experiments tending so directly to prove the specific virtue of Mercury in the Small Pox, as those which I now offer to the public: it is under this idea I have called them new. If I have been deceived, and any one has anticipated me in this business, I shall be happy to relinquish my claim on the first occasion.

BEFORE I enter into a detail of these experiments, I have judged it necessary to give an account of the progress of my ideas and conjectures; a plan which I think every one who relates a new discovery ought to pursue.

PHYSICIANS may be divided into two classes ;— the one, enemies to novelty, seem to have deter-

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mined never to leave the beaten path ; the others, on the contrary, esteem that qualification as a sufficient ground for their approbation. I must make my apology to the first, for pointing out a more certain and easy cure of the Small Pox, by begging them to recollect, that it is the cautious institution of experiments alone which has raised medicine to its present degree of perfection ; and must request those on the other side not to adopt my opinion till experience has shewn their solidity.

I HAVE been told that the use of mercury is by no means new ;—to this I answer, that whilst it was combined with purgatives, there must always have remained a doubt to which we should attribute the success. The diminutive doses in which it was exhibited, sufficiently shew in what dread it was held by practitioners. It is also said, that as mercury is proved to be an antidote to the variolous miasma, it might prevent its developement ; but after it had been discontinued for some time, the patient would again be exposed to the danger of natural contagion. But if the experiments demonstrate that mercury, applied directly to variolous matter, destroys its power of cummunicating the disease, the detail into which I have entered

tered in the first part, proves also, that a few grains given internally, divided and mixed with the whole mass of humours, act only in moderating the symptoms ; that, when given in this manner, mercury does not prevent the disease, it only removes the danger ; and it is easy to exhibit a medicine, whose divisibility is so great, in whatever quantity we may wish.

PART THE FIRST.

I WAS furnished by my situation, as Physician to the Corps Imperial des Cadets Nobles at St. Petersbourg, with an opportunity of inoculating, at the same time, a number of Cadets lately received into that establishment, destined for the education of the Noblesse.

THE excessive heat of the weather was a very strong reason for the delay of inoculation ; but as a very malignant sort of Small Pox was, at that

time, raging through the whole city, I thought it more adviseable to proceed to the operation, than to expose such a number of children to the danger of natural contagion, which it was almost impossible to avoid in so large an establishment.

IN reflecting on the method of preparation, it was natural to pay particular attention to that of Mr. Sutton, who has gained such great reputation by his reiterated success. It immediately appeared to me, that the advantage of his method was to be entirely attributed to the small dose of mercury which he exhibited to his patients, as one-twelfth of a grain of tartar emetic seemed much more adapted to conceal the design of the author, than to answer any useful purpose.

BOERHAAVE was the first person who imagined that mercury possessed a specific power against the Small Pox. The doubts of this celebrated physician, whether mercury or antimony contained this property, were the reason that the two have been combined by practitioners, who at least hoped to render the mercury more efficacious by the addition of antimony.

SOME

SOME English physicians at Philadelphia, emboldened by the conjecture of Boerhaave, were the first, if I am not mistaken, who exhibited mercury in this disease; but the mode of exhibition sufficiently shewed their fears, as they constantly followed it with a dose of *pulvis cornachinus*; if they had no dread of its bad effects, why was it driven out of the body by purges?

EXPERIMENTS of this kind must consequently leave us in doubt whether we are to attribute our success to mercury, antimony, or to the purges.

I MUST here beg leave to make a small digression.

THEY complain, and not without reason, of the want of specifics; but in the reigning custom of loading prescriptions with a number of medicines, which still exists, though in a smaller degree, how is it possible to be otherwise? During a long period, the value of a medicine arose in proportion to the number of its ingredients, and the authority of Opinion has led numbers; but why they, whose characters are already established, whose writings breathe nothing but an eulogium on simplicity, should continue in the beaten track, I cannot conceive.

conceive. What man praised simplicity more than Boerhaave? yet see his prescriptions!

Is it, then, that we teach with ease what we practise with difficulty?

IT may happen, that a medicine possesses some noxious quality, which may be corrected by another ingredient—that some particular indication cannot be answered, except by the combination of two medicines;—then combine them; but why should they be multiplied without rhyme or reason?

THERE is another reason which ought to disgust us with this mode of proceeding; many simples, with whose medical virtues we are perfectly well acquainted, on combination with each other gain new properties, of which we are totally ignorant.

HOWEVER this may be, the dose of mercury appeared to me far too feeble to exert the whole of its efficacy.

THE reasoning which seems to have inspired all these fears is this:—The Small Pox, at its commencement,

mencement, appears as an inflammatory fever, terminating itself by the eruption of a matter which soon suppurates ; the disease then puts on all the appearances of a putrid fever ; a putrid fever is a dissolution of the humours—mercury dissolves the humours, consequently mercury is hurtful.—This is one example from a thousand, where an extravagant desire to give a pretended explanation of what passes in a sick body, has produced the most fatal consequences to medicine.

SINCE they say, that the Small Pox consists in a dissolution of the humours, we might presume that the idea is fixed, is precise ; but the plague and the scurvy consist equally in a dissolution of the humours. Is there, then, no difference in the three diseases ?

WHAT service is it, then, to content ourselves with these arguments, since the word “*dissolution*” denotes so many deviations from health ?

As the Small Pox, in its commencement, appears with inflammatory symptoms, is it not reasonable to imagine, that mercury, by resisting their action, renders the disease less fatal ?

THIS

THIS reasoning is perhaps as feeble as the other; but in our present ignorance of the proximate cause of this disease, every one may be allowed to form his own opinion; I was therefore determined to try it the first opportunity.

THE age of the children admitted into the Corps des Cadets, is from five to seven years. The relations who bring them are questioned, whether they have had the Small Pox? and those who are to undergo inoculation are separated, that they may be prepared in the manner the physician chooses.

TEN days before inoculation, I forbade the use of animal food, and exposed the children to as cold an air as the season and situation of the house would permit. I never perceived the necessity of evacuating the intestines of those whose breath or tongues did not indicate a bad habit of body; in that case, children are often liable to putrid fevers, caused by the corrupted matter which is resorbed from the primæ viæ into the blood. But the Small Pox has nothing in common with these fevers; inoculate the most healthy man, and if he has not had the disease before, he will receive it now. The greater part of physicians are
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in the constant habit of purging those whom they inoculate. It is in medicine as in ordinary life; men often do actions without being able to give any good reason why they do them.

CONFORMABLE to my views, I prescribed the following powders:

R.

Calomel: viij mer. sublimat: gr. ij.

Sacch: alb: ʒj.

Tere super marmor, ut fiat pulvis subtilis: divid: in
dos. iiij.

I GAVE two doses of these powders daily, from the beginning of the preparation (that is, ten days previous to inoculation). To those of a robust constitution, or whose age was more advanced, I, from time to time, added the third. I continued these medicines after inoculation, till the commencement of the eruptive symptoms; after this I gave no other medicine than a draught of weak solution of cream of tartar, sweetened by a little syrup. In the last stage, I ordered a slight laxative to carry off the remains of the disease.

IT is so general that inoculation renders the Small Pox less fatal, that the proportion of dan-

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ger between the inoculated and those who receive it in the natural way is nearly ascertained: I do not pretend to ground the preference of this method merely on the recovery of all my patients; in that, many have been equally successful; but what astonished me, and astonished all who saw the patients under my care, was, that at a time when the worst species of Small Pox raged in the city, and when the heat was excessive, consequently the season very unfit for inoculation, not one of the Cadets had any sickness, confinement to his bed, or indisposition, in any stage of the disease. Indeed, I think it very rare and surprising, that in such a season as that in which they were inoculated, not one of sixty-five, during the whole of the time, should feel the least complaint.

PART THE SECOND.

THIS success could not, in my opinion, be attributed to any thing else than the Mercury given in the preparation ; but this opinion was only a simple conjecture, which required to be proved by direct experiments.

I SHALL now give an account of the mode in which experiments for that purpose were conducted.

EXPERIMENT I.

I TOOK some fresh pus from the arm of a child to whom I had given the disease by inoculation ; I mixed it as intimately as possible, with a small portion of calomel, seven times sublimed ; with this mixture I inoculated three children—it was inserted into both arms. The places where the inoculations were made shewed not the least puffing, inflammation, or suppuration : the children perceived no symptom of the disease.

EXPERIMENT II.

UNCERTAIN whether this phenomenon might not depend on the mechanic action of the calomel, I exposed pus newly taken from some patients to the fumes of mercury, for the space of two minutes, and then applied it to both the arms of two children. Neither patient shewed any symptom similar to those which are seen in ordinary inoculations.

EXPERIMENT III.

ANOTHER time, I mixed the variolous pus with a very strong solution of the same calomel in common water; the effect was precisely the same, that is to say, there was no sign either of tumour or inflammation.

EXPERIMENT IV.

IT is a fact, that a certain disposition of the humours is necessary to the production of a contagious disease, though we are ignorant what this disposition

disposition is. The inoculation with common pus was made in the children who had submitted to the second experiment; the incision caused an itching, the part became evidently inflamed, and the children took the infection.

EXPERIMENT V.

BUT the same person may not have this disposition at one time, and yet may afterwards be attacked by the disease. These experiments, therefore, are not thoroughly satisfactory. At last, to make myself perfectly certain of the efficacy of this medicine, I made the inoculation in one arm with ordinary matter, in the other with that mixed with calomel, as in the first experiment. The incision in the arm inoculated with common matter shewed evident marks of inflammation; the patient complained of an itching; suppuration followed in proper time, and some pustules appeared on the body, accompanied by the ordinary symptoms. The incision made in the other arm dried up without any sign of inflammation.

EXPERI-

EXPERIMENT VI.

I INOCULATED two children with ordinary matter; after the incisions were dried, I applied two small plaisters of common mercurial ointment. Neither of the places inflamed, and the inoculation took no effect.

EXPERIMENT VII.

IN two other children, I placed a plaster on one arm and left the other to itself: the consequence was, that the last inflamed and conveyed the disease, while those which were covered with the plaisters shewed no signs of itching, swelling, or inflammation.

EXPERIMENT VIII.

I LEFT the incision to itself till it began to be evidently inflamed; I then applied a plaster of the same kind. On examination of the part, twelve hours after, I could not perceive the least trace of the inflammation. This experiment was reapeated with the same success.

EXPERI-

EXPERIMENT IX.

ONE time only, I left the one incision entirely to itself, and the child took the infection ; I deferred doing any thing to the other till it became very much inflamed, and was surrounded with small pustles ; I then covered it with a plaster of the same kind : the consequence was, that the inflammation, swelling, and pustles, totally disappeared.

I REGRET very much, that I had not an opportunity, by multiplied experiments, to fix the precise time at which mercury is no longer able to prevent the developement of the variolous miasma. For, I imagine, that it may be suffered to proceed so far, as to put it out of the power of this mineral to prevent it ; but it was impossible for me to fix the precise point. Perhaps it may be when the incision is so greatly inflamed as to be surrounded by pustles.

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EXPERIMENT X.

ALTHOUGH the experiment which I am now going to relate does not immediately belong to the preceding, yet its singularity makes me willing to relate it.

I EXPOSED a piece of lint, impregnated with variolous matter, to a cold of twenty degrees of Reaumur's scale, for the space of twenty-four hours. The inoculation made, *one time only*, with this lint had no effect.

IT may be asked, what can be the use of these Experiments?

So great are the advantages which have resulted from inoculation—so great the disproportion of deaths, that since its introduction, as many people as are now living have been preserved, (for it is computed

computed by some, that not more than one of two hundred and fifteen, by others, of four hundred and twenty-five, by others, of as many thousands, properly prepared, die by inoculation; while of seven who take it in the natural way, one—or of nine, two die). However strong these reasons are in favour of inoculation, there are nevertheless many so ill-advised, as to be discouraged by a single unfortunate case, without being reasonable enough to reflect on the immense number whom this operation can boast of having saved, and to remain liable to receive the infection in the natural way, (the danger of which is so great, that I affirm too little, when I say, that not more than one out of ten escapes the disease). It is thus, then, that I hope to be useful to mankind, by encouraging them to submit to inoculation, which the well-established specific virtue of mercury renders still less dangerous than it was.

INDEED, my experience emboldens me to assert, that where this mineral is given, as I have ordered, it is almost impossible any one should die of inoculation, so great is its power of destroying or moderating the force of the variolous virus.

PERHAPS it may be objected, that these experiments only prove that mercury, applied immediately to variolous matter, is able to impede or destroy its contagious power; but that it by no means follows, that this virtue should not be altered by the action of the first and second passages.

THIS objection has less force than at first sight it appears to possess. Food, whether animal or vegetable, suffers a total change by the action of the primæ viæ, and by the circulation of the humours; but the case is very different with this mineral: when it is administered by friction, it passes through the most subtle ducts, and though it undergoes the action of the whole animal system, yet it may be recovered from the saliva in a state so perfectly similar to that in which it was given, that it is impossible for the most skilful chemist to discover the least alteration; and, on dissection, it has been sometimes found in the cavities of bones in its most perfect state.

I THEREFORE cannot conceive, why mercury, when applied externally, should be able to prevent the disease; and yet, when given internally, it should not even render it more mild.

NO

NO person is ignorant, that the Small Pox not only sweeps off numbers, but also very frequently attacks the sight, and deprives the miserable sufferers of that precious sense. The specific virtue of mercury ought to diminish our fears on that head. To lessen this danger, we should frequently bathe the eyes of the sick with rose water, in which a few grains of dulcified mercury have been dissolved. We might answer the same purpose by anointing the eye-lids with some weak mercurial ointment.

By the aid of the same kind of ointment, the fair sex may be able to preserve those personal attractions on which this enemy to beauty so frequently makes his ravages.

THESE are all the advantages which result from the specific virtue of mercury. It secures those who are exposed to the malignant epidemics

of this disease, which sweep off the greater part of those who are attacked. It is neither conjecture nor analogy which makes me recommend it as a preservative in these cases.

A most malignant Small Pox, at one time, carried off almost all who were seized. Convinced, by my own experience, of the salutary effects of this medicine, I advised all who consulted me to take one or two grains of mercury daily, according to their age.

THE greater part escaped the disease; those who were seized continued the medicine till the time of the eruption. The effect was, that in these the disease appeared in its mildest form, while in others it was very violent and fatal.

I USED the same preservative twice afterwards, when the Small Pox was so violent, that the greater part of those who were attacked fell victims to the disease. The effect was exactly the same: Those who took the mercury, either escaped the disease or had it in a very slight manner.

BUT

BUT that on which I principally insist is, that it should be given without any mixture (except a little sugar, by which it is rendered more fine and more divided) and particularly that it should not be combined with any purgative ; time ought to be given to permit its intimate mixture with the humours.

LET us agree with ourselves. If mercury has been demonstrated to be an antidote to the variolous poison, what good end does it answer to drive it out of the body ?

F I N I S.

